

EXAMINER'S AMENDMENT

1. Claims 1-5, 8, and 13 have been allowed.
2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with William M. Lee, Jr. (Registration No. 26,935) on April 29, 2009.

The application has been amended as follows:

1. (Currently amended) A computer implemented method of indexing location of content cached within an IP-based network comprising:-
 - (a) intercepting data traffic flowing from a source node to a destination node in the network, the data traffic including content to be cached at the destination node,
 - (b) extracting identity information for the content and associated destination location information for the destination node where the content in the data traffic is to be cached from the data traffic,
 - (c) generating a mapping from the content identified by the extracted identity information to the destination node identified by the associated destination location information, and
 - (d) storing the mapping in a content index database which is operable to, wherein the database provides an instance mapping containing a list of destination nodes at which

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the content has been cached, the instance mapping being provided in response to an instance request containing the identity information for the content, and

(e) advertising the extracted content identities to which mappings are stored in the content index by sending advertising messages to a predetermined location in the network.

2.(Currently amended) A method according to claim 1, wherein the step of intercepting data traffic is carried out by intercepting data traffic flowing into a cache, and wherein the method further comprises advertising the content identities for which mappings are stored in the content index by sending advertising messages to a predetermined location in the network.

3.(Currently amended) A method according to claim 2, wherein the method further comprises recording the time of data traffic flows into the cache which are related to a particular content item and calculating the time period between a first flow of the content item into the cache and a subsequent flow of the content item into the cache thereby to assess how long content items are held in the cache before they are the content items expired and deleting the mapping relating to that particular content item when that the said particular content item is judged to have expired in the cache.

4.(Previously presented) A method according to claim 1, wherein the step of

intercepting data traffic is carried out by intercepting data traffic flowing out of an original content source node.

5.(Original) A method according to claim 4, wherein the method further comprises receiving an advertising message which advertises a mapping generated elsewhere on the network and said message is related to content items stored in the original content source node, and augmenting the content index using information contained in the advertising message.

6.(Previously presented) A method according to claim 1 wherein the step of intercepting data traffic is carried out by intercepting content requests issued by a cache, and wherein the method further comprises advertising the content identities for which mappings are stored in the content index by sending advertising messages to a predetermined location in the network.

7. (Cancelled)

8. (Currently amended) A proxy for an IP-based network comprising:-

(a) a processor,

(b) a data input ~~operable~~ to receive traffic data transmitted from a source node to a destination node from the network, the traffic data including content to be cached at the

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destination location, wherein the data traffic flowing from the source node to the destination node is intercepted.

- (c) a data output ~~operable~~ to send data including the content to the network,
- (d) an identity extractor ~~operable~~ to analyze data received at the data input and to extract, from the data, identity information for the content,
- (e) a location extractor ~~operable~~ to analyze data received at the data input and to extract, from the data, location information for the destination node where the content in the data is to be cached,
- (f) a mapping generator ~~operable~~ to generate a mapping from a content item identified by identity information provided by the identity extractor, to at least one destination node where the content is to be cached, the at least one destination node identified by associated destination location information provided by the location extractor,
- (g) a content index database ~~operable~~ to store a mapping provided by the mapping generator and to provide an instance mapping containing a list of destination nodes at which the content has been cached, the instance mapping being provided in response to an instance request containing an identity of the content item, and
- (h) an advertising message for transmission over the network, the message advertising a replica content item and the location of said replica content item.

9. (Cancelled)

10. (Cancelled)

11. (Cancelled)

12. (Cancelled)

13.(Currently amended) A computer program, stored on computer readable medium, which, when executed by an apparatus, causes the apparatus to index content in an IP-based network by:-

- (a) intercepting data traffic flowing from a source node to a destination node in the network, the data traffic including content to be cached at the destination node,
- (b) extracting identity information for the content and associated destination location information for the destination node where the content in the data traffic is to be cached from the data traffic flow,
- (c) generating a mapping from the content identified by the extracted identity information to the destination node identified by the associated destination location information,
- (d) storing the mapping in a content index database which ~~is operable to provide~~ provides an instance mapping containing a list of destination nodes at which the content has been cached, the instance mapping being provided in response to an instance request containing the identity of the content, and
- (e) advertising the extracted content identities to which mappings are stored in the content index by sending advertising messages to a predetermined location in the network.

14. (Cancelled)

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SAHERA HALIM whose telephone number is (571)272-4003. The examiner can normally be reached on M-F from 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (571) 272-4001. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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